

IN THE CLAIMS

1. (currently amended) A contents alteration detection apparatus having a data filling apparatus and a detection apparatus, said data filling apparatus filling certain embedding data to contents data being objective to embed said embedding data, said detection apparatus detecting whether alteration was added to said contents data or not, said data filling apparatus, comprising: a contents data dividing means for dividing at least a part of said contents data into a plurality of first data blocks; and a data filling means for filling each of certain first embedding data to each of said divided first data blocks to generate a plurality of second data blocks having second embedding data, said detection apparatus, comprising: a data extracting means for extracting said second embedding data filled in each of at least a part of said second data blocks (~~second embedding data~~); and an alteration detecting means for detecting whether or not alteration was added to each of at least a part of said second data blocks based on said extracted second embedding data, and an altered position indication means for indicating the positions occupied by said second image blocks of which added alteration was detected.

2. (currently amended) A contents alteration detection apparatus having a data filling apparatus and a detection apparatus, said data filling apparatus filling certain embedding data to image data, said detection apparatus detecting whether alteration was added to said image data or not, said data filling apparatus, comprising: an image dividing means for dividing said image data into a plurality of first image blocks; and a data filling means for filling each of certain first embedding data to each of said divided first image blocks to generate a plurality of second image blocks having second embedding data, said detection apparatus, comprising: a data extracting means for extracting said second embedding data filled in each of said second image blocks (~~second embedding data~~); and an alteration detecting means for detecting whether or not alteration was added to each of said second image blocks based on said extracted second embedding data, and an altered position indication means for indicating the positions occupied by said second image blocks of which added alteration was detected.

3. (original) The contents alteration detection apparatus according to claim 2 wherein: said image dividing means divides said image data into said plurality of first image blocks containing a plurality of unit data respectively; and said data filling means adjusts a relationship between or among a mutually corresponding plurality of said unit data values contained in each of mutually corresponding two or more of said first image blocks so that it represents said first embedding data according to a certain rule, filling said first embedding data to each of said plurality of first image blocks to generate said second image blocks.

4. (currently amended) The contents alteration detection apparatus according to claim 3 wherein said data filling means, in the case that alteration was added to any of said second image blocks, adjusts said mutually corresponding plurality of unit data values contained in said second image blocks to which alteration was added so that said values do not comply with said certain rule.

Ac 5. (original) The contents alteration detection apparatus according to claim 4 wherein said data extracting means extracts as said second embedding data, from each of said plurality of second image blocks, the data represented by the relationship between or among said plurality of unit data values contained in each of said second image blocks according to a certain rule.

6. (original) The contents alteration detection apparatus according to claim 5 wherein said alteration detecting means detects whether alteration was added to each of said second image blocks or not based on results of comparison between said embedded first embedding data and said extracted second embedding data.

7. (original) The contents alteration detection apparatus according to claim 3 wherein said first image blocks and said second image blocks are conversion blocks that contain said unit data, and also contain one or more sets of conversion coefficients acquired by dividing image data into certain processing blocks and converting it from a space area into a frequency area, respectively.

8. (original) The contents alteration detection apparatus according to claim 3 wherein said first image blocks and said second image blocks are DCT blocks that contain said unit data, and also contain plural sets of DCT coefficients acquired by dividing image data into certain DCT blocks and performing discrete cosine transformation (DCT) process on it.

9. (currently amended) A data filling apparatus filling certain embedding data to image data so as to detect whether alteration was added to image data, said detection being performed, based on second embedding data filled to each of a plurality of second image blocks contained in said image data, by detecting whether or not alteration was added to each of said image blocks, and an altered position indication means for indicating the positions occupied by said second image blocks of which added alteration was detected, said data filling apparatus comprising: an image dividing means for dividing image data into a plurality of first image blocks; and a data filling means for filling each of certain first embedding data to each of said divided first image blocks to generate a plurality of second image blocks.

10. (currently amended) The data filling apparatus according to claim 9 wherein: said image dividing means divides said image data into said plurality of first image blocks containing a plurality of unit data respectively; and said data filling means adjusts a relationship between or among a mutually corresponding plurality of said unit data values contained in each of mutually corresponding to two ~~two~~ or more of said first image blocks so that it represents said first embedding data according to a certain rule, filling said first embedding data to each of said plurality of first image blocks to generate said second image blocks.

11. (original) The data filling apparatus according to claim 10 wherein said data filling means, in the case that alteration was added to any said second image blocks, adjusts said mutually corresponding plurality of unit data values contained in each of said second image blocks to which alteration was added so that said values do not comply with said certain rule.

12. (currently amended) A detection apparatus for detecting whether or not alteration was added to each of a plurality of second image blocks having second embedding data generated by

dividing image data into a plurality of first image blocks and filling each of certain first embedding data to each of said divided first image blocks, said detection apparatus comprising: a data extracting means for extracting second embedding data filled in each of said second image blocks (~~second embedding data~~); and an alteration detecting means for detecting whether or not alteration was added to each of said second image blocks based on said extracted second embedding data, and an altered position indication means for indicating the positions occupied by said second image blocks of which added alteration was detected.

Ac 13. (currently amended) The detection apparatus according to claim 12 wherein: said image data is divided into said plurality of first image blocks containing a plurality of unit data respectively; said second image blocks are adjusted so that the relationship between or among a mutually corresponding plurality of said unit data values contained in each of mutually corresponding to two or more of said first image blocks represents said first embedding data according to a certain rule; and said data extracting means extracts as said second embedding data, from said plurality of second image blocks, the data represented according to a certain rule by the relationship between or among mutually corresponding plurality of said unit data values contained in each of corresponding two or more of said second image blocks.

14. (original) The detection apparatus according to claim 13 wherein: in the case that alteration was added to any of said second image blocks, said mutually corresponding plurality of unit data values contained in each of said second image blocks to which alteration was added are adjusted so that said values do not comply with said certain rule; and said contents alteration detecting means detects whether or not alteration was added to each of said second image blocks based on results of comparison between said embedded first embedding data and said extracted second embedding data.

15. (cancelled)

16. (currently amended) A contents alteration detection method for filling certain embedding data to contents data being objective to embed said embedding data, said detection method detecting whether alteration was added to said contents data or not while: dividing said contents data into a plurality of first data blocks; filling each of certain first embedding data to each of said divided first data blocks to generate a plurality of second data blocks having second embedding data, extracting said second embedding data filled in each of said second blocks (~~second embedding data~~); and detecting whether or not alteration was added to each of said second data blocks based on said extracted second embedding data, and detecting and indicating the positions occupied by said second image blocks of which added alteration was detected.

17. (currently amended) A recording medium in an alteration detection apparatus having a data filling apparatus and a detection apparatus, said data filling apparatus filling certain embedding data to image data, said detection apparatus detecting whether alteration was added to said image data or not, said recording medium carrying a program for having a computer execute the steps of: dividing image data into a plurality of first image blocks; filling each of certain first image blocks to generate a plurality of second image blocks having second embedding data; extracting said second embedding data filled in each of said second image blocks (~~second embedding data~~); and detecting whether or not alteration was added to each of said second image blocks based on said extracted second embedding data, and detecting and indicating the positions occupied by said second image blocks of which added alteration was detected.

18. (currently amended) A recording medium in a data filling apparatus filling certain embedding data to image data so as to detect whether or not alteration was added to image data, said detection being performed, based on second embedding data filled to each of a plurality of second image blocks contained in said image data, by detecting whether or not alteration was added to each of said image blocks, and detecting and indicating the positions occupied by said second image blocks of which added alteration was detected, said recording medium carrying a program for having a computer execute the steps of: dividing image data into a plurality of first image blocks; and filling each of certain first embedding data to each of said divided first image blocks to generate a plurality of second image blocks having second embedding data.

19. (currently amended) A recording medium in a detection apparatus for detecting whether or not alteration was added to each of a plurality of second image blocks having second embedding data generated by dividing image data into a plurality of first image blocks and filling each of certain first embedding data to each of said divided first image blocks, said recording medium carrying a program for having a computer execute the steps of: extracting second embedding data filled in each of said second image blocks (~~second embedding data~~); and detecting whether or not alteration was added to each of said second image blocks, and detecting and indicating the positions occupied by said second image blocks of which added alteration was detected, based on said extracted second embedding data.
